B. Amendments to the Claims

Claim 1(currently amended)

A supercharged radial vane rotary power device ~~having~~ comprising:

an end shaft extending along a rotation axis; ~~of the device, the device comprising~~

a rotor assembly rotatable about the rotation axis; and

a stator comprising:

a front stator portion having the end shaft journaled therewithin, the front stator portion joined to a back stator portion along respective mating ~~faces~~ surfaces to form an internal volume containing the rotor assembly;

the back stator portion comprising a central inwardly projecting cylindrical portion comprising at least one ~~passageway~~ channel comprising an intake channel communicating with at least one radial intake port formed in a peripheral wall of the central inwardly projecting portion;

and wherein the rotor assembly comprises:

a rotor block having the end shaft extending therefrom, the end shaft coupled to the rotor block by ~~means~~ an axial fan portion comprising a plurality of fan blades extending radially across an ~~inlet~~ intake opening ~~and~~ communicating with a central bore for receiving, with rotational clearance, the central inwardly projecting cylindrical portion of the back stator portion; the rotor block rotatably carried by the stator;

~~a selected number, greater than one, of~~ radial compartments equidistantly spaced apart about the rotation axis ~~of the device~~, each of the radial compartments open to an outer

peripheral surface of the rotor block, each of the radial compartments having a respective inner opening intermittently communicating with the at least one radial port in the peripheral wall of the central cylindrical inwardly projecting portion of the stator during the course of each rotation of the rotor assembly; and

~~the same selected number of~~ radially extending vane assemblies slidably disposed in respective slots within the rotor block in alternating relation with the radial compartments, each of the ~~vanes~~ vane assemblies comprising a respective cam follower engaging a cam track defined by ~~respective~~ grooves formed in ~~the respective~~ mating ~~faces~~ surfaces of the front and back stator portions.

Claim 2(amended)

The supercharged radial vane rotary power device of Claim 1 wherein spaces between the fan blades provide fluid communication between the ~~inlet~~ intake opening and the intake channel ~~at least one passageway in the centrally projecting stator portion of the back stator portion~~.

Claim 3(amended)

The supercharged radial vane rotary power device of Claim 1 wherein each of the cam followers comprises a respective freely sliding element captured within a medial ring portion adjacent ~~attached to a respective~~ an outer tip of a respective vane assembly~~, each medial ring capturing a respective freely sliding element for engaging the cam track~~.

Claim 4(amended)

The supercharged radial vane rotary power device of Claim 3 wherein each freely sliding element comprises a respective ball.

5(amended)

The supercharged radial vane rotary power device of Claim 1 wherein the at least one radial intake port communicates with each of the radial ~~compartment~~ compartments in the course of each rotation of the rotor block;

and the stator portion further comprises:

at least one ~~passageway comprising an~~ exhaust channel comprising at least one radial exhaust port formed in a peripheral wall of the central inwardly projecting cylindrical ~~portion projecting~~ stator portion and communicating with each of the radial ~~compartment~~ compartments in the course of each rotation of the rotor block; and

at least one ignition port communicating with each of the radial ~~compartment~~ compartments during each rotation of the rotor block;

whereby the radial vane rotary power device is adapted to function as a four-phase internal combustion engine.

Claim 6(amended)

The supercharged radial vane rotary power device of Claim 1 wherein the at least one radial intake port communicates with each of the radial ~~compartment~~ compartments in the course of each rotation of the rotor block; and

the stator portion further comprises:

at least one exhaust channel ~~passageway~~ comprising an exhaust port communicating with each of the radial ~~compartment~~ compartments in the course of each rotation of the rotor

block; and

at least one ignition port communicating with each of the radial ~~compartment~~ compartments during the course of each rotation of the rotor block;

whereby the radial vane rotary power device is adapted to function as a four-phase internal combustion engine.

Claim 7(amended)

The supercharged radial vane rotary power device of Claim 1, wherein

the central ~~cylindrical~~ inwardly projecting cylindrical stator portion comprises at least two ~~passageways~~ channels comprising the one ~~inlet~~ intake channel connected to a pair of diagonally disposed intake ports, each of the intake ports communicating with each of the radial ~~compartment~~ compartments in the course of each rotation of the rotor block; and

one ~~discharge passageway~~ exhaust channel connected to a pair of diagonally disposed ~~discharge~~ exhaust ports, each ~~discharge~~ exhaust port communicating with each of the radial ~~compartment~~ compartments in the course of each rotation of the rotor block;

whereby the radial vane rotary power device is adapted to function as one of a pump, a compressor, a fluid-driven motor and an expander device.

Claim 8(amended)

The supercharged radial vane rotary power device of Claim 1, wherein

the ~~inlet~~ intake channel is connected to a pair of diagonally disposed intake ports, each intake port communicating with each of the radial ~~compartment~~ compartments in the course of

each rotation of the rotor block; and

an outer portion of the back stator portion comprises at least a diagonally disposed pair of ~~discharge passageways~~ exhaust channels connected to at least one ~~discharge~~ exhaust port, each ~~passageway~~ exhaust channel communicating with each of the radial ~~compartment~~ compartments in the course of each rotation of the rotor block;

whereby the radial vane rotary power device is adapted to function as one of a pump, a compressor, a fluid-driven motor and an expander device.

Claim 9(amended)

The supercharged radial vane rotary power device of Claim 1 wherein

the central ~~cylindrical~~ inwardly projecting cylindrical portion comprises at least two ~~passageways~~ channels comprising:

the ~~inlet~~ intake channel, which is connected to a pair of diagonally disposed intake ports, each intake port communicating with each of the radial ~~compartment~~ compartments in the course of each rotation of the rotor block; and

an exhaust channel ~~passageway~~, which is connected to a pair of diagonally disposed exhaust ports, each exhaust port communicating with each of the radial ~~compartment~~ compartments in the course of each rotation of the rotor block; and

wherein an outer portion of the back stator portion comprises at least a pair of diagonally disposed ignition ports for receiving respective igniters, each of the ignition ~~port~~ ports communicating with each of the radial ~~compartment~~ compartments during each rotation of the rotor block;

whereby the radial vane rotary power device is adapted to function as two-phase internal combustion engine.

Claim 10(amended)

The supercharged radial vane rotary power device of Claim 1 wherein

the ~~inlet~~ intake channel is connected to a pair of diagonally disposed intake ports, each intake port communicating with each of the radial ~~compartment~~ compartments in the course of each rotation of the rotor block;

an outer portion of the back stator portion comprises a pair of diagonally disposed exhaust ~~passageways~~ channels connected to at least one ~~discharge~~ exhaust port, each exhaust ~~passageway~~ channel communicating with each of the radial ~~compartment~~ compartments in the course of each rotation of the rotor block; and

the outer portion of the back stator portion comprises at least a pair of diagonally disposed ignition ports, each ignition port communicating with each of the radial ~~compartment~~ compartments during each rotation of the rotor block;

whereby the radial vane rotary power device is adapted to function as two-phase internal combustion engine.

11(amended)

The supercharged radial vane rotary power device of Claim 1 wherein the central inwardly projecting cylindrical stator portion comprises a transverse wall separating a frontal intake channel from a back exhaust channel.

12(amended)

A supercharged four-phase rotary internal combustion engine comprising:

a stator defining an internal volume having an oval cross-section transverse to an axis of rotation~~, the stator~~ and comprising ~~respective~~ front and back stator portions ~~comprising respective~~ having mating surfaces for mating along a medial plane transverse to the axis of rotation;

the front and back stator portions comprising ~~respective~~ cam grooves in the ~~respective~~ mating surfaces~~, the cam grooves defining~~ to define a cam track encircling the internal volume~~, the cam track communicating~~ and to communicate with the internal volume through an encircling slot formed from recessed wall portions of the ~~respective~~ mating ~~faces~~ surfaces of the back and front stator portions;

the front stator portion comprising a central throughhole for receiving an end shaft extending along the axis from a rotor block, the back stator portion comprising a central inwardly projecting cylindrical portion projecting into the internal volume along the axis of rotation, the central inwardly projecting cylindrical portion comprising at least one ~~inlet passageway~~ intake channel for communicating with at least one peripheral ~~inlet~~ intake port;

a rotor assembly comprising the rotor block comprising a central cylindrical bore for receiving the central inwardly projecting cylindrical ~~projecting~~ stator portion, the rotor block coupled to an end shaft by ~~means comprising~~ an axial fan portion for inducting a charge and for communicating the charge to the at least one ~~inlet passageway~~ intake channel of the central inwardly projecting portion of the back stator portion, the rotor block rotatable within a rotor chamber portion of the internal volume lying between the central inwardly projecting cylindrical stator portion and an inner peripheral wall of the internal volume, the rotor block comprising ~~a selected number, greater than one, of~~ radial compartments equidistantly spaced apart about the rotation axis of the device, each of the radial compartments open to a peripheral surface of the block~~, each of the compartments~~ and

having a respective inner opening communicating with the at least one axially aligned radial port in the central inwardly projecting cylindrical stator portion during the course of each rotation of the rotor assembly, the rotor assembly further comprising ~~the selected number of~~ radially extending vane slots disposed within the rotor block in alternating relation with the radial compartments; and

~~the same selected number of~~ vane assemblies, each vane assembly comprising a respective inner flat portion slidably received in a respective rotor slot and a respective cam follower ~~outer ring portion medially fixed to an outer tip of the associated inner portion, each ring portion respectively enclosing a freely sliding ball element~~ captured within ~~the respective ring vane portion and within~~ the cam track.

13(amended)

The supercharged four-phase rotary internal combustion engine of Claim 12 wherein the central inwardly projecting cylindrical stator portion further comprises an exhaust ~~passageway~~ channel communicating with a peripheral exhaust port; and wherein an outer external stator portion comprises an ignition port.

14(amended)

The supercharged four-phase rotary internal combustion engine of Claim 12 wherein an outer external stator portion comprises an igniter and an exhaust ~~passageway~~ channel connected to an exhaust port.

15(amended)

The supercharged four-phase rotary internal combustion engine of Claim 12 wherein the ~~rotor assembly~~ axial fan portion comprises a plurality of blades, each ~~blade~~ of the blades having a respective base coupled to the end shaft, each ~~blade~~ of the blades further having a

respective outer tip fixed to the rotor block.

Claim 16(amended)

A rotary power device operable as one of a pump and an expander, the device comprising:

a stator having an internal volume having an oval cross-section transverse to ~~the~~ an axis of rotation ~~, the stator~~ and comprising front and back stator portions mating along a medial transverse plane perpendicular to the axis of rotation; the front stator portion comprising a central throughhole, the back stator portion comprising a central inwardly projecting cylindrical portion extending into the internal volume along ~~an~~ the axis of ~~the device~~ rotation, the central inwardly projecting cylindrical portion comprising at least one ~~inlet passageway~~ intake channel communicating with at least one pair of ~~diagonal~~ diagonally opposed peripheral ~~inlet~~ intake ports, the ~~inlet~~ intake channel ~~passageway~~ for receiving an ~~inlet~~ intake fluid charge passing between blades of an axial fan portion of a rotor block;

a rotor assembly comprising:

an end shaft rotatable about the axis of rotation and extending outwardly from the throughhole in the front stator portion, the end shaft connected to the rotor block by ~~means comprising a plurality of~~ the axial fan portion ~~blades~~;

the rotor block comprising a central cylindrical bore for receiving the central inwardly projecting cylindrical ~~projecting~~ stator portion, the rotor block rotatable within a rotor chamber portion of the internal volume lying between the central inwardly projecting cylindrical stator portion and an inner peripheral wall of the internal volume;

~~the rotor assembly further comprising:~~

~~a selected number, greater than one, of~~ radial compartments equidistantly spaced apart

about the axis of rotation ~~the device~~, each of the radial compartments open to a peripheral surface of the block, each of the radial compartments having a respective inner opening communicating with the at least one port in the peripheral wall of the central inwardly projecting cylindrical stator portion at least once during the course of each rotation of the rotor assembly;

~~the selected number of~~ radially extending vane slots disposed within the rotor block in an alternating relation with the radial compartments; and

~~the selected number of~~ vane assembles~~, each vane assembly~~ comprising [[a]] respective inner flat ~~portion~~ portions slidably received in [[a]] respective vane ~~slot~~ slots and [[a]] respective cam followers ~~outer portion medially fixed to the inner portion and~~ slidably received in a cam track formed in the stator~~; and a respective ball element captured by the respective outer portion of the vane, each ball element also captured within the cam track~~.

17(amended)

The rotary power device of Claim 16 wherein the stator further comprises two diametrically opposed exhaust channels ~~passageways~~, each of the exhaust channels ~~passageway~~ comprising a respective recessed wall portion in an inner wall of the stator, each of the exhaust channels ~~passageway~~ connected to a respective exhaust port spaced radially outwardly from the central inwardly projecting cylindrical stator portion.

18(amended)

The rotary power device of Claim 16 wherein the central inwardly projecting cylindrical stator portion comprises two diametrically opposed exhaust ports communicating with a common exhaust ~~passageway~~ channel.

19(amended)

The rotary power device of Claim 16 wherein each of the blades of the axial fan portion comprises a respective base coupled to the end shaft and ~~having~~ a respective outer tip fixed to a hub portion of the rotor block.

Claim 20(amended)

A supercharged two-phase internal combustion engine comprising

a stator defining an internal volume having an oval cross-section transverse to an axis of rotation, the stator comprising respective front and back stator portions comprising respective mating surfaces for mating along a medial plane transverse to the axis of rotation, the front and back stator portions comprising respective cam grooves in ~~the respective~~ mating surfaces~~, the cam grooves defining~~ to define a cam track encircling the internal volume~~; the cam track~~ and communicating with the internal volume through an encircling slot formed from recessed wall portions of the respective mating ~~faces~~ surfaces of the back and front stator portions; the front stator portion comprising a central throughhole for rotatably carrying an end shaft; the back stator portion comprising a central inwardly projecting cylindrical portion projecting into the internal volume along the axis of rotation, the central inwardly projecting cylindrical portion comprising at least one ~~inlet~~ intake channel ~~passageway with~~ having at least one pair of diagonally disposed peripheral ~~inlet~~ intake ports;

a rotor assembly comprising a rotor block comprising a central cylindrical bore for receiving the ~~cylindrical~~ central inwardly projecting cylindrical stator portion, the rotor block coupled to the end shaft by ~~means comprising~~ an axial fan portion for inducting a charge into the at least one ~~passageway~~ intake channel in the central inwardly projecting cylindrical stator portion of the back stator portion, the rotor block rotatable within a rotor chamber portion of the internal volume lying between the ~~internally~~ central inwardly projecting cylindrical

stator portion and an inner peripheral wall of the internal volume, the rotor block comprising ~~a selected number, greater than one, of~~ radial compartments equidistantly spaced apart about the axis of the device, each of the rotor compartments open to a peripheral surface of the block, each of the rotor compartments having a respective inner opening communicating with the at least one axially aligned radial port in the central inwardly ~~internally~~ projecting cylindrical stator portion during the course of each rotation of the rotor assembly, the rotor assembly further comprising ~~the selected number of~~ radially extending vane slots disposed within the rotor block in alternating relation with the radial compartments; and

~~the selected number of~~ vane assembles~~, each assembly~~ comprising [[a]] respective inner flat ~~portion~~ portions slidably received in [[a]] respective rotor ~~slot~~ slots and [[a]] respective cam followers adjacent ~~outer ring portion medially fixed to an~~ respective outer [[tip]] tips of [[the]] associated inner flat portions, ~~portion, each ring portion respectively enclosing a freely sliding ball element~~ the cam followers captured ~~within the respective ring vane portion and~~ within the cam track.

21(amended)

The supercharged two-phase rotary internal combustion engine of Claim 20 wherein the central inwardly ~~internally~~ projecting cylindrical stator portion further comprises an exhaust ~~passageway~~ channel communicating with a pair of diagonally disposed peripheral exhaust ports.

22(amended)

The supercharged two-phase rotary internal combustion engine of Claim 20 wherein the central inwardly ~~internally~~ projecting cylindrical stator portion comprises an intake ~~passageway~~ channel communicating with a pair of diagonally disposed peripheral intake port and the outer stator portion comprises both a pair of exhaust ~~passageways~~ channels

connected to respective exhaust ports and a pair of diagonally disposed ignition ports.

23(amended)

The supercharged two-phase rotary internal combustion engine of Claim 20 wherein the ~~rotor assembly~~ axial fan portion comprises a plurality of blades, each blade having a respective base fixed to the end shaft and a respective outer tip fixed to the rotor block.